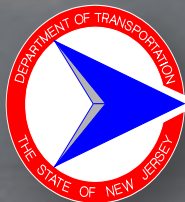


# FY 2013-2022 Statewide Capital Investment Strategy

*... asset management, performance-based,  
strategic direction*



**CHRIS CHRISTIE**  
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March 2012

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## I. EXECUTIVE SUMMARY

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The 10 Year Statewide Capital Investment Strategy (SCIS) provides transportation investment recommendations for transportation program categories based upon goals, objectives, and performance measures.

“The primary mission of the New Jersey Department of Transportation is to provide a safe, reliable and efficient multi-modal transportation network which serves the mobility needs of residents, commerce and visitors in a manner that promotes economic development and insures environmental responsibility”.

The NJDOT's mission statement is, "Improving lives by improving transportation." The Core Mission areas are:

1. Safety
2. Infrastructure Preservation
3. Mobility
4. Program Delivery

As the coordinator of the SCIS, NJDOT is promoting these core mission areas as the major priorities that should guide transportation investment decisions to improve performance.

The SCIS is a requirement of the Transportation Trust Fund Authority Act of 2000; and is the product of a collaborative effort involving the New Jersey Department of Transportation (NJDOT), NJ TRANSIT, the New Jersey Turnpike Authority (NJTA), and the South Jersey Transportation Authority (SJTA). The law directs statewide transportation agencies to coordinate to develop a SCIS that addresses deficiencies and pursues improvements in a more comprehensive manner towards attaining the statewide goals.

In addition, the State's three Metropolitan Planning Organizations – the North Jersey Transportation Planning Authority, the Delaware Valley Regional Planning Commission, and the South Jersey Transportation Planning Organization – were partners in the process to develop the SCIS. The SCIS report:

- Clearly depicts the current and future condition of New Jersey's transportation system.
- Outlines recommended investment patterns, based on alternative funding scenarios that can be used to guide development of the NJDOT, NJ TRANSIT and Toll Road capital programs.

- Presents an analysis that documents the investments required to address needed transportation improvements over the next ten years.
- Makes clear policy and action recommendations.
- Represents a consensus of the SCIS partner transportation agencies.

The goal of the SCIS is to develop an annual spending level that can achieve the performance objectives of the NJDOT, NJT, NJTA and SJTA. Scenarios were developed where appropriate, to determine performance levels based on different levels of funding. These alternative scenarios help to provide a context for New Jersey's overall transportation needs.

The SCIS includes transportation investments in common categories across agencies. This integrated approach provides a foundation for understanding the total state investment needed in roads, bridges, and public transit. It fosters a collaborative approach to making the best use of available transportation funding, which provides for the most efficient use of resources.

Figure 1  
Summary

<b>Statewide Investment Targets</b> <b>(Millions)</b> Includes NJDOT, NJ Transit, NJTA and SJTA Investments	
<b>Categories</b>	<b>Recommended Constrained Investment Targets</b>
<b>Bridge Assets</b>	<b>\$771.09</b>
<b>Road Assets</b>	<b>\$261.49</b>
<b>Mass Transit Assets</b>	<b>\$1066.94</b>
<b>Airport Assets</b>	<b>\$17.70</b>
<b>Transportation Support Facilities</b>	<b>\$82.05</b>
<b>Safety Management</b>	<b>\$127.19</b>
<b>Congestion Relief</b>	<b>\$477.89</b>
<b>Multimodal Support</b>	<b>\$46.20</b>
<b>Local System Support</b>	<b>\$405.16</b>
<b>Statewide Total</b>	<b>\$3,255.71</b>

The SCIS also represents an “asset management” approach to addressing our transportation needs. Asset Management is a systematic, comprehensive approach and process for maintaining, upgrading, and operating physical assets cost-effectively. As part of the SCIS process, there are a total of nine investment categories.

The chart shown in Figure 1 lists each of the categories and provides a recommended annual investment target and assumes essentially flat transportation funding over the next ten years. It is important to note that these recommendations constitute the combined total investment of approximately \$3.3 billion annually for all four transportation agencies. The SCIS is necessarily constrained by the transportation funding resources available to New Jersey.

#### **Bridge Assets – 771.09 Million**

By investing \$771.09 million annually in bridges, the SCIS aims to slow the growth of bridges that are deemed structurally deficient. This amount includes investments in state highway and toll road authority bridges. Local bridge investment targets are included under the Local System Support section



shown below. The need for bridge preservation in New Jersey is critical, and the SCIS focuses on preventative maintenance, rehabilitation and selective replacements.

#### **Road Assets – \$261.49 Million**

This category seeks to improve pavement smoothness. It addresses the overwhelming need for pavement preservation focusing on implementing a life-cycle cost approach that completes life-extension treatments including preventive maintenance, rehabilitation and full reconstruction of the roadway.

#### **Mass Transit Assets -- \$1066.94 Million**

This funding amount seeks to achieve a “state of good repair” for the mass transit network; reliability of service; and infrastructure rehabilitation. Replacement of bus and rail equipment is also targeted.

#### **Airport Assets and Aviation Support -- \$17.70 Million**

This annual investment target preserves the continued viability of the core airport system in New Jersey.

#### **Transportation Support Facilities Assets - - \$82.05 Million**

Although the current condition levels of some facilities are maintained, the backlog of substandard conditions at certain facilities will continue to increase.

#### **Safety Management -- \$127.19 Million**

This investment amount seeks to maintain the current performance indicators to reduce fatality and injury severity rates, and promotes strategies and partnerships to continue to achieve that reduction. The investment also funds safety partnerships that advance Engineering, Education, Enforcement, and Emergency Medical Services (quicker response and care).

#### **Congestion Relief -- \$477.89 Million**

Investment for congestion relief will also be targeted toward more low-cost/high-return strategies like signal optimization planning and deployment of Intelligent Transportation Systems (ITS) and travel demand reduction (TDM). These strategies can have significant effects on mobility and congestion reduction.

#### **Multimodal -- \$46.20 Million**

The Multimodal category is made up of programs that support the economy and promote a better quality of life. Examples of these programs include bicycle and pedestrian projects, goods movement improvements, and maritime programs. This category targets resources in these areas more efficiently, while allowing programs to continue with a goal of enhanced performance.

#### **Local System Support -- \$405.16 Million**

This category invests in the county and municipal transportation network, where needs such as bridges, safety and congestion reduction are critical.



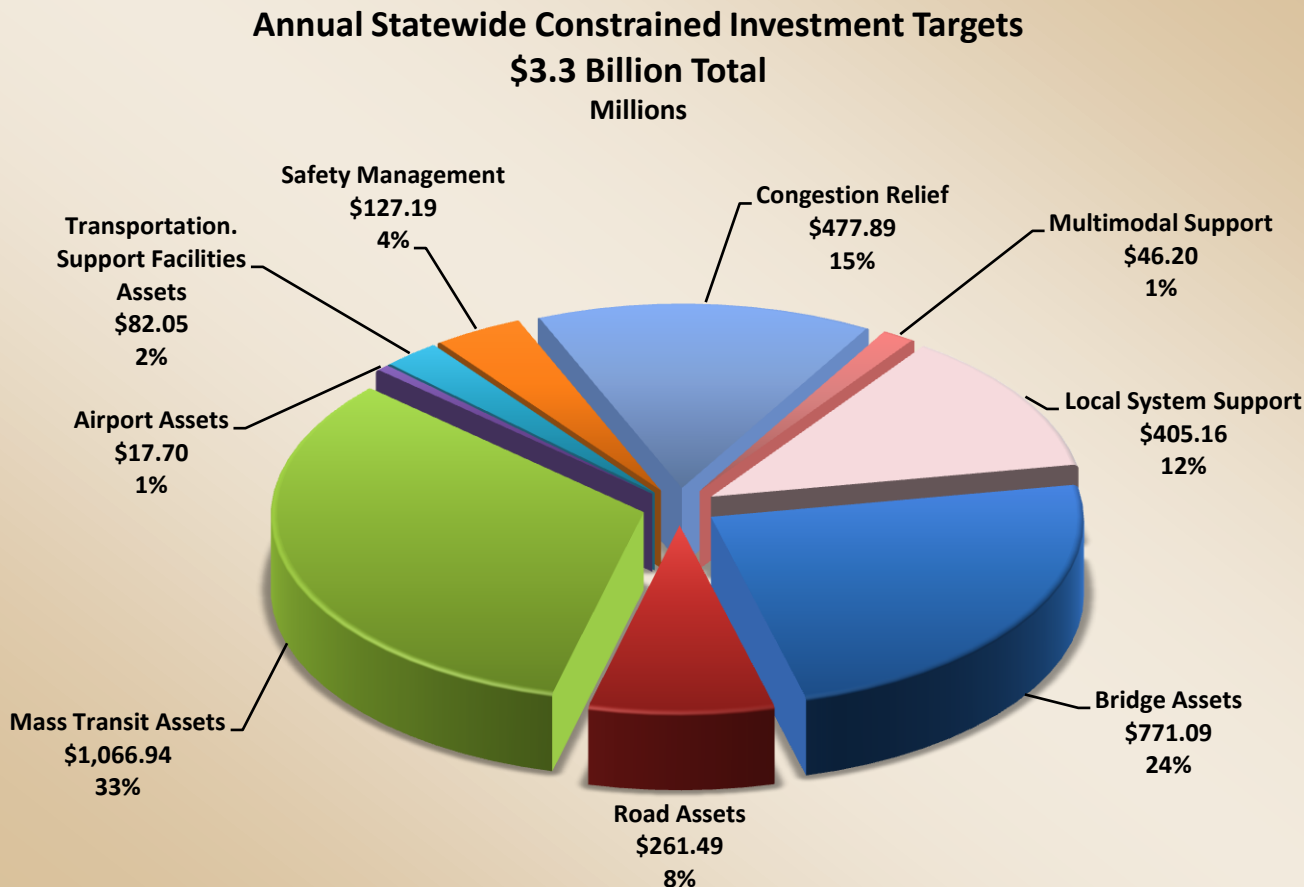
Provided in Figure 2 is the asset category percentage distributions of the Proposed Constrained Investment Targets. This chart illustrates the proportional relationship of the categories to the sum of the total assets.

As needs continue to grow and revenue is expected to remain limited, the ability to improve the performance of New Jersey's transportation system and achieve statewide transportation goals and objectives becomes a monumental challenge.

Promoting a safe, reliable, durable, and first-rate transportation system requires collaboration on common goals. The SCIS fulfills a statutory mandate of inclusive, thorough, and practical funding guidance for New Jersey's long-term transportation needs.

The following sections provide a more detailed description regarding the data used to identify needs and make funding recommendations.

Figure 2



*Investment targets are fiscally constrained to reflect revenue projections that are estimated to remain relatively flat over the next ten year period. As a result, the "Recommended Constrained Investment Targets" totaling approximately \$3.3 billion annually over the next ten years are allocated to emphasize critical system preservation needs such as infrastructure, safety, and mass transit assets.*

## II. STATEWIDE CONTEXT



### FORMING A PARTNERSHIP TO ACHIEVE STATEWIDE TRANSPORTATION GOALS

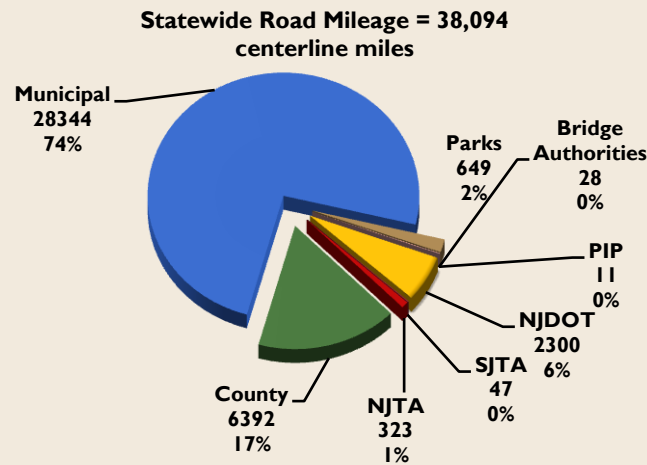
With the intention of fulfilling the statutory mandate, a collaborative effort is necessary to ensure that capital investments for New Jersey's transportation system are planned and implemented in a seamless manner. The New Jersey Department of Transportation (NJDOT), NJ TRANSIT, New Jersey Turnpike Authority (NJTA) and South Jersey Transportation Authority (SJTA) transportation assets and supporting programs have been integrated into a cohesive Statewide Capital Investment Strategy (SCIS).

### NEW JERSEY'S TRANSPORTATION SYSTEM OWNERSHIP

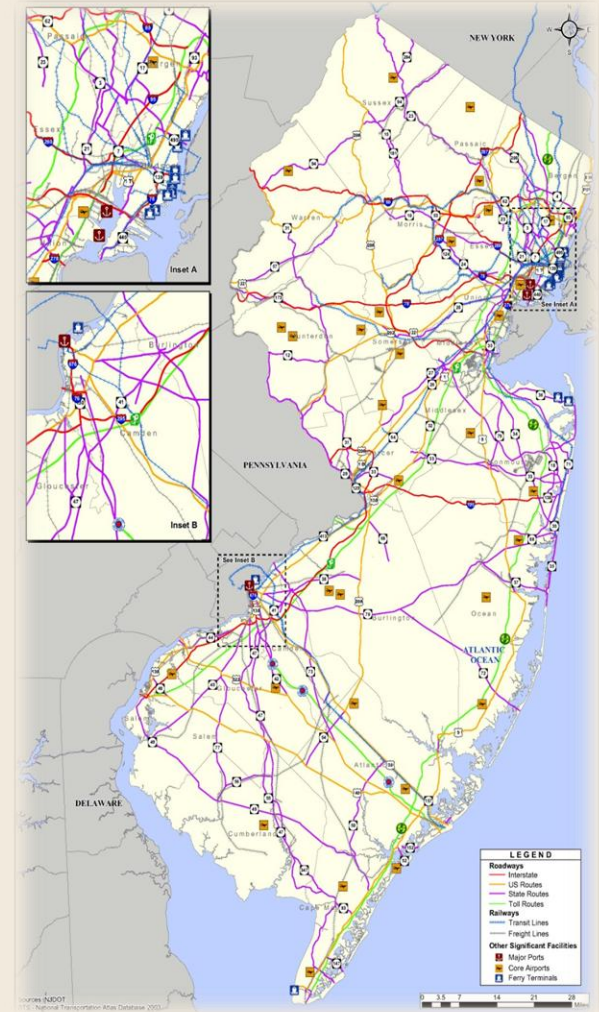
The responsibility for constructing, maintaining and operating the highway system in New Jersey is shared by state, county and municipal governments and toll road authorities. Combined, these agencies own and operate more than 38,000 centerline miles, as shown in Figure 3.

The major roadways, including interstate highways, freeways, and major arterials, are mainly under the jurisdiction of NJDOT and to a lesser degree one of the toll road authorities. With some exceptions, most of the minor arterial and collector roads are under county jurisdiction. Local streets and roads are owned and operated by municipal governments.

Figure 3



Although NJDOT and toll road authority jurisdiction represents only about 7% of the total statewide mileage, approximately two-thirds of all traffic (66%), including high percentages of heavy trucks is carried on state-owned (41%) and toll roads (25%). Despite the fact that the centerline mileage





on the New Jersey Turnpike, Garden State Parkway and the Atlantic City Expressway is relatively small, these facilities handle very large volumes of statewide and regional commuter and recreational traffic. These major highway corridors are vital segments of our highway network.

The county roads account for approximately 17% of the total centerline miles statewide. They provide the critical links that connect the state and municipal roads. The roads under municipal jurisdiction comprise the significantly largest mileage (74%), but service the least amount of traffic volume. However, these local facilities play significant roles in providing access to the county and state transportation networks from urban, suburban, and rural communities.

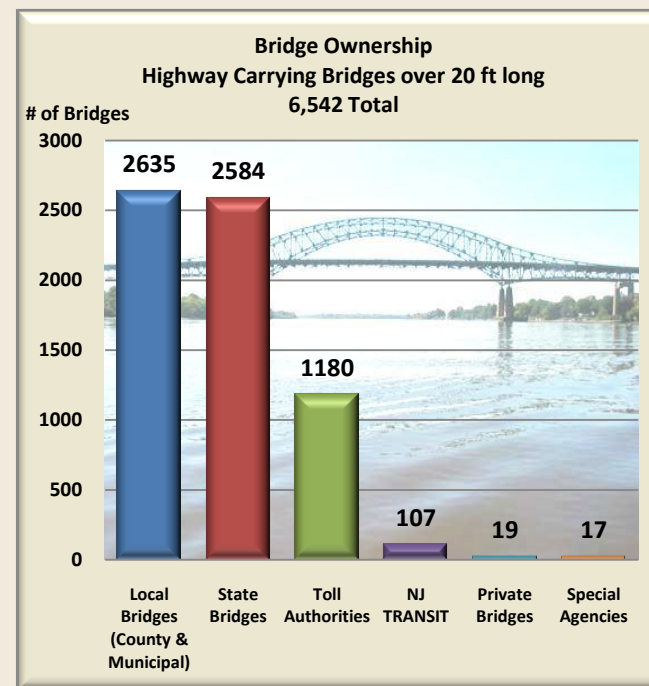
NJ TRANSIT, which is the nation's third largest mass transit provider, has construction, maintenance, and operating responsibilities associated with providing extensive mass transportation services throughout the state. The bulk of all transit

passengers in New Jersey depend on the operation of NJ TRANSIT rail and bus facilities on a daily basis.

At present, there are 6,542 highway carrying bridges over 20 feet long in New Jersey's bridge inventory. As indicated in Figure 4, the State of New Jersey and the local governments (county and municipal) own the largest portion of this population. The average design life expectancy of a new bridge is 75 years. Currently, 17 % of State, 31 % of County/Municipal, 58 % of NJ TRANSIT, and 37 % of private bridges are older than 75 years. The average age of the bridges in New Jersey is 51 years.

New Jersey's 44 public use airports accommodate more than 2.5 million general aviation operations each year. This includes 41 general aviation airports and 3 air carrier commercial airports. Twenty six (26) of the State's public-use airports are privately owned and 18 are publicly owned. The New Jersey Department of Transportation (NJDOT) has general oversight of all 44

public-use airports, and over 400 restricted-use aeronautical facilities, including airstrips, heliports and balloon ports. On the commercial side, the responsibilities are divided among agencies: the Port Authority of New York and New Jersey for Newark-Liberty and Teterboro; the South Jersey



Transportation Authority for Atlantic City International Airport.

In addition to roadway infrastructure assets, there are underlying Intelligent Transportation System (ITS) assets, shown in Figure 5, managed through Statewide Traffic Operations. These assets encompass a variety of investments in equipment, facilities and human resources, and are intended to maximize the efficiency of the existing transportation system to relieve congestion. These assets include “hard” technology (fiber optic cable, CCTV cameras, Dynamic Message Signs, etc.), “soft” technology (TRIPS123 and 511 web and phone-based information systems), “on-the-road” low technology (Safety Service Patrols), facilities (Traffic Operations Centers), and Programs (Statewide Incident Management Program).

Another dimension of Congestion Relief is Transportation Demand Management, or TDM. Like ITS, TDM encompasses a variety of strategies intended to maximize the efficiency of the existing transportation system, but does it from the demand side, encouraging greater use of alternatives to solo driving.

Figure 5



The NJDOT's Park & Ride Program which oversees approximately **115,585** commuter parking spaces, statewide. The Department owns 17 park-and-ride lots, accounting for approximately **2900** spaces. The NJDOT also has 14 active lease agreements, accounting for an additional 1759 spaces. The remaining 110,926 parking spaces are owned or leased by other entities including NJ Transit, municipalities, private bus carriers or other private owners.

- Currently, the State oversees the activities of eight (8) Transportation Management Associations (TMAs). The TMAs currently assist the department by delivering programs to employers, commuters and residents that encourage the various alternatives to solo driving. The combined service areas of the 8 TMAs cover the entire state of New Jersey. As of July 1, 2011 the TMAs have transitioned to full oversight by the North Jersey Transportation Planning Authority.

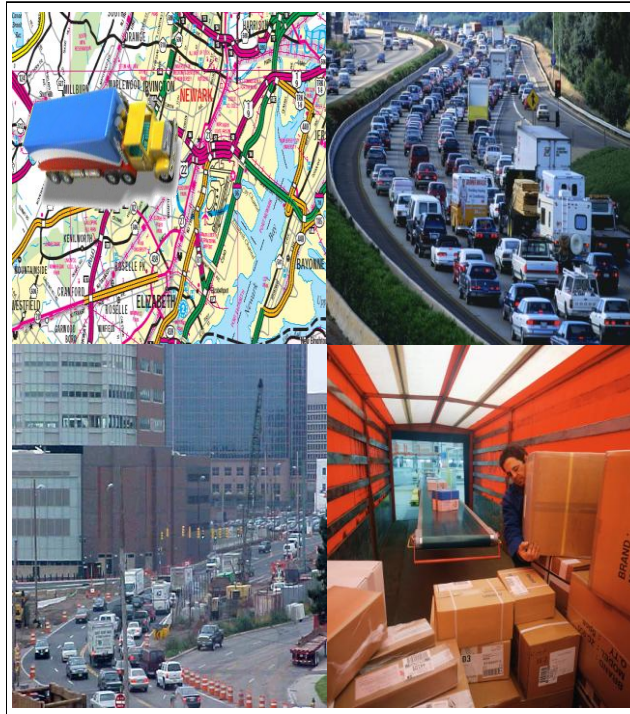


### III. ECONOMIC IMPACT AND TRANSPORTATION INVESTMENT

Transportation investments play a key role in attracting and maintaining businesses and residents that help to revitalize our urban centers as well as our suburban and rural communities. A strong transportation network functions to rebuild the socio-economic and cultural foundation of New Jersey as a place to live, work, visit, and do business. The condition of the state's highway and transit systems play a major role in stabilizing and enhancing the economic vitality of the state by serving as a conduit to local, regional, and national activity centers. It is an indispensable element providing safe access and mobility to and from residential, commercial, industrial, and recreational land uses producing employment, commerce and tourism opportunities.

New Jersey serves as a global gateway for the world economy. The distribution of goods to, from and within New Jersey ports, distribution centers and commercial zones is extremely dependent upon the physical status of the roadway infrastructure. Consequently, transportation investment in New Jersey also plays a role in driving segments of our global economy.

Maintaining and upgrading the structural integrity and surface condition of New Jersey roads and bridges as well as keeping them safe and mobile is mandatory for economic growth. One of the keys to building and



"A modern, efficient highway system is essential to meet the needs of our growing population, our expanding economy, and our national security." ... President Dwight Eisenhower, 1955

sustaining a strong economy is to minimize the cost of transporting people and goods by maintaining transportation systems that are in a state of good repair and are efficient and well-planned.

The highways themselves—designed for the needs of the middle of the 20<sup>th</sup> century—are often substandard, deteriorated, and ill-suited to meet the needs of the 21<sup>st</sup> century. Nevertheless, these roads carry huge amounts of traffic and represent enormous economic investment. Over time, the state has invested billions of dollars in its transportation infrastructure to respond to the safety and mobility needs of the traveling public. From an asset management perspective, one of the state's top priorities must be to restore deficient parts of this network to a state of good repair and maintain the entire system at the best possible level of condition.

Improving mobility is also an important objective that must still be pursued. The mission of the NJDOT is "Improving Lives by Improving Transportation". One of the ways that this mission can be achieved is by reducing traffic congestion.

An excellent transportation system is not only crucial to the economic vitality of the state but also critical to the quality of life of



residents and businesses. The economic impact of traffic on communities and commuters is evident everyday as people travel to and from work, school, shopping, and recreation. In addition, relieving congestion not only helps to grow the economy and improve personal productivity, but also reduces energy consumption and emissions, including green house gases. The development of “The State Strategic Plan (Proposed Final Draft): New Jersey’s State Development & Redevelopment Plan, will provide overall guidance with regard to the relationship between land use and transportation.

As New Jersey remains the most densely populated state in the nation and is situated in the center of the Northeast’s vital commerce corridor, our transportation system continues to experience substantial commuter, recreational and freight traffic. In fact, New Jersey has the most heavily traveled roads in the Northeast corridor with drivers experiencing over a million hours of delay every day. Studies show that each year, New Jersey commuters lose the equivalent of 33 working days and \$1,200 worth of gasoline sitting in traffic.

As a reflection of these conditions, the Beacon Hill Institute’s 10<sup>th</sup> Annual Economic Competitiveness Report shows that New Jersey is ranked 48<sup>th</sup> in the nation



for “travel time to work”, a significant disadvantage in attracting new businesses. Clearly, these consequences severely impact the state’s economy as a whole - its ability to

compete nationally and globally - and leads to a substantial degradation of its citizens’ personal mobility, future prosperity and quality of life.

By pursuing our long-range goals and objectives, the SCIS provides guidance for the formulation of a capital program that plans for essential transportation investments vital to the improvement of New Jersey’s economy. It is important to select transportation investments that focus on both highway and mass transit assets such as: highway, pedestrian and passenger safety, bridge and roadway preservation, mobility and congestion relief, and multimodal improvements on both the state and local highway networks to fulfill critical transportation goals and objectives.

The SCIS sets out the overall *strategy* that the state follows for investing capital transportation dollars in the future. In a time of competing needs and limited capital, the SCIS seeks a cost-effective return on public investments. It tells us how we can get more “bang for our bucks”. It enables decision makers to make better selections regarding which projects and programs should receive funding. The result is a cost-effective approach to improving the overall quality of New Jersey’s transportation system.

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## STATEWIDE TRANSPORTATION AGENCY CAPITAL PROGRAMS IN REVIEW

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NJDOT's ongoing FY 2012 Capital Program will continue to “reform, replenish, and grow” New Jersey’s economy. It reflects the need to prioritize spending while carefully evaluating transportation needs and targeting limited resources toward safety and state-of-good-repair initiatives as well as the most efficient mobility improvements.

During FY 2011, from July 1, 2010 to June 30, 2011, NJDOT plans to invest \$2.37 billion in much needed highway and bridge improvements. It is anticipated that this will support and create thousands of jobs while enhancing the safety and long-term physical condition level of New Jersey’s heavily traveled and aging infrastructure. With regard to construction contracts, NJDOT awarded 98 contracts for transportation projects throughout the state in FY 2011, totaling about \$432 million. This includes \$23 million for four transportation projects funded by the American Recovery and Reinvestment Act, as well as \$409 million for planned NJDOT capital and operations projects. Similar information for FY 2012 will be available at the conclusion of the current fiscal year.

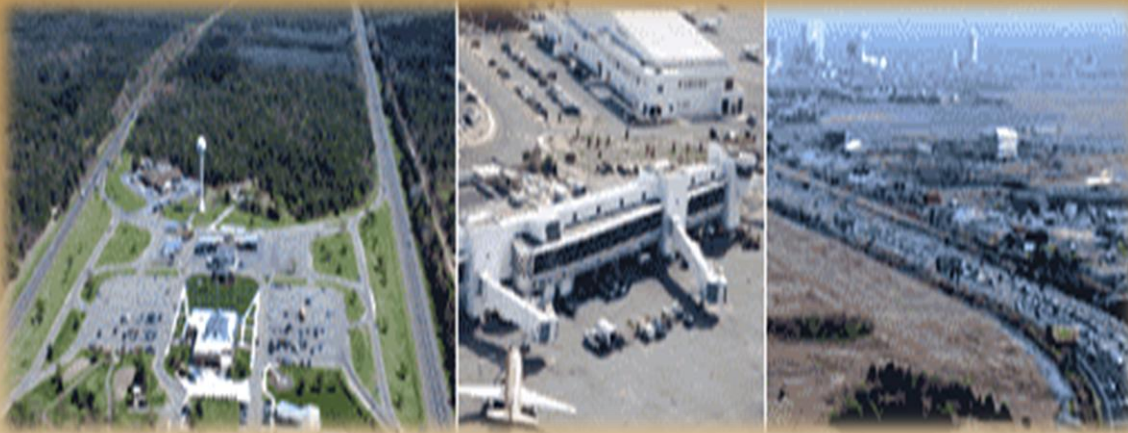




### New Jersey Turnpike Authority (NJTA)



### South Jersey Transportation Authority (SJTA)



Many mass transit needs were addressed as well. For example, NJ TRANSIT planned to invest approximately \$1.164 billion in bus, rail and other physical infrastructure assets throughout the state. Over the next 10 years, there is approximately \$32 billion of both highway and mass transit investments currently planned by NJDOT and NJ TRANSIT designed to improve the transportation system's performance in order to pursue SCIS goals and objectives. However, there are many financial risks associated with actually having this significant level of funding available to improve and maintain our transportation infrastructure in a state of good repair achieving safety and mobility objectives.

The New Jersey Turnpike Authority (NJTA) and the South Jersey Transportation Authority (SJTA) have also identified significant investments required to enhance and maintain their toll road facilities, airport and other transportation assets. According to their 10-Year Capital Investment Plans, the NJTA and SJTA are proposing to invest a total of about \$7.7 billion, \$7 billion (based on the NJTA's FY 2009-2018 Capital Investment Program) and \$700 million, respectively, over the next ten years to ensure that quality facilities are provided to the traveling public.



## IV. ASSET MANAGEMENT

The State of New Jersey faces significant challenges with respect to determining what investments to make in its transportation system. New Jersey's transportation network is extensive and well-developed. It is critical that New Jersey is in a position to balance investments in different asset and investment categories to best preserve the state's transportation network, while also targeting improvements in mobility, safety, multimodal and other areas.

In order to address this challenge, New Jersey is taking an asset management approach to preserving and improving the transportation system. Asset management offers an alternative to focusing solely on problem spots or worst conditions. The Federal Highway Administration and the American Association of State Highway and Transportation Officials define Asset Management as a "systematic process of maintaining, upgrading, and operating physical assets cost-effectively".

New Jersey will utilize an Asset Management approach as illustrated in Figure 6. For example, in carrying out this process, NJDOT's overall capital investment strategy is to first, improve safety and maintain

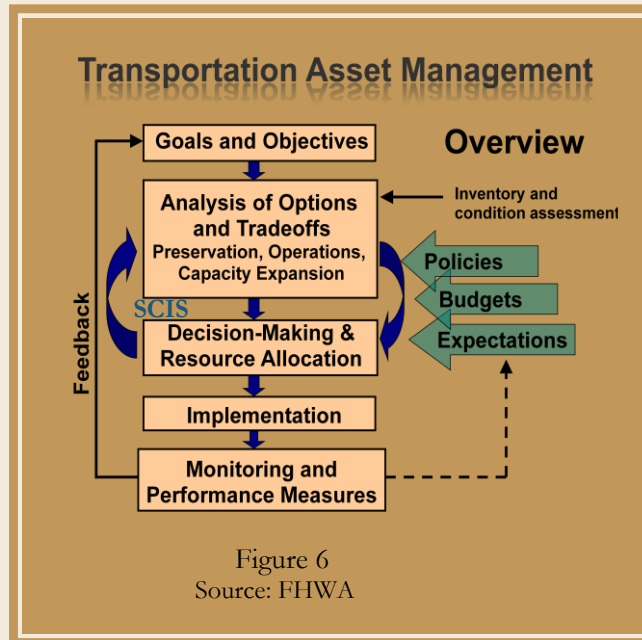


Figure 6  
Source: FHWA

infrastructure assets in a state of good-repair, as well as enhance mobility in the most cost-effective manner. This approach will ensure that available funding is targeted efficiently in the key priority areas in an effort to achieve our "performance-based" goals and objectives.

An essential part of Asset Management is the lifecycle management approach to reach or maintain targeted performance levels while minimizing long-term costs. Lifecycle management also considers system expansion needs. Given a block of funding to preserve, rehabilitate, replace or expand a

particular asset class, a lifecycle management plan will outline a specific resource allocation level be dedicated to preventative maintenance activities, a portion dedicated to more repair and rehabilitation, and a portion dedicated to replacement. Lifecycle management plans may also prioritize based on functional classification -- for instance, interstate highways versus arterial roads. Through development of lifecycle management plans, we intend to outline the most effective allocation of funding for maintenance, rehabilitation and replacement in order to reach targeted levels of performance.

NJDOT adopted Asset Management as the official, institutional approach to managing its infrastructure assets and making capital investment decisions in January, 2008. The approach supports and complements many of our federal and state mandated investment planning documents, including the 10 Year Statewide Capital Investment Strategy, the 10 Year Transportation Improvement Program, the Annual Transportation Capital Program, and the Annual Study and Development Program. NJDOT's performance indicators are presented in Figure 7 and published at: <http://www.yourmoney.nj.gov/transparency/performance/dot/>. A performance summary of the progress of the state highway system conditions is displayed in Figure 8.

Figure 7

**NJDOT****Performance Indicators - October to December 2011**

	Frequency	Desired Trend	Target	Prior Period	Current Period	% Change	Last 2 Period Average
<b>Local Aid</b>							
Percentage of competitive Municipal Aid grants that have been awarded by the Municipalities within 18 months.	annual	increase	90%	87% (CY 09)	83% (CY 10)	-5%	85%
Percentage of County Aid funds that have been awarded by the Counties within 36 months.	annual	increase	90%	52% (CY 09)	57% (CY 10)	9%	55%
<b>Program Delivery</b>							
Percentage of planned construction projects that have been awarded.	annual	increase	95%	87% (FY 10)	93% (FY 11)	6%	90%
Average department bill processing time frame for capital payments. (in days)	annual	decrease	40 (days)	42 (FY 10)	36 (FY 11)	-17%	39
<b>State of Good Repair &amp; Safety</b>							
Number of traffic fatalities per 100 Million Vehicle Miles (MVM) traveled. <i>Seeking a 20% reduction in 2008 rates by 2018.</i>	annual	decrease	0.62 (by CY 18)	0.77 (CY 08)	0.70 (CY 09)	-10.00%	0.735
Number of traffic crashes per Million Vehicle Miles (MVM) traveled. <i>Seeking a 20% reduction in 2008 rates by 2018.</i>	annual	decrease	2.86 (by CY 18)	3.58 (CY 08)	3.24 (CY 09)	-10.49%	3.41
Percentage of State highway pavement in acceptable condition.	annual	increase	50%	50% (CY 10)	50% (CY 11)	0%	50%
Percentage of State-owned bridges 20 feet or more in length in acceptable condition. <i>Bridges in acceptable condition only require periodic or routine maintenance in order to continue to safely serve the motoring public.</i>	annual	increase	88%	88% (CY 10)	88% (CY 11)	0%	88%
Percentage of State-owned bridge deck area in acceptable condition. <i>Deck area in acceptable condition only require periodic or routine maintenance in order to continue to safely serve the motoring public.</i>	annual	increase	87%	87% (CY 10)	87% (CY 11)	0%	87%
Average response time for non-emergency pothole repair (in hours)*	annual	decrease*	30.0 (hrs)	18.9 (FY 10)	56.4 (FY 11)	198.41%	37.7
Average response time for emergency pothole repair (in hours)	annual	decrease	3.0 (hrs)	4.9 (FY 10)	2.9 (FY 11)	-40.82%	3.9
Percent of traffic signals inspected needing repair	annual	decrease	15%	14.9% (FY 10)	14.0% (FY 11)	-6.04%	14%
Percent of crew responses within 90 minutes to electrical operations emergencies such as traffic signal failures.	annual	increase	72%	82% (FY 10)	72% (FY 11)	-13.89%	77%
<b>Transportation Services</b>							
Average state highway incident duration in minutes.	quarterly	decrease	50 (min)	48 (CY 11 Q2)	51 (CY 11 Q3)	6.25%	50
Number of tons of trash picked up	annual	increase	4000 (tons)	3500 (FY 10)	3758 (FY 11)	7.37%	3629

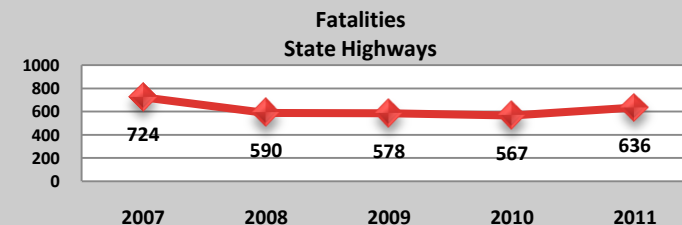
\*Method for reporting potholes has resulted in an increase in reported response time in FY 11. Calls coming in after 4 PM on Friday through Sunday are now tracked from the time the call is received versus when normal business hours begin on Monday.

CY= Calendar Year, FY=Fiscal Year

# Figure 8: Performance Summary: Progress on NJ State Highways (NJDOT Jurisdiction)

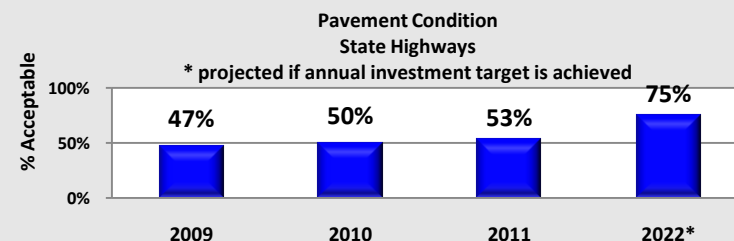
## Safety

- ✓ While fatalities have consistently dropped over the last several years, a noticeable increase has occurred in 2011.



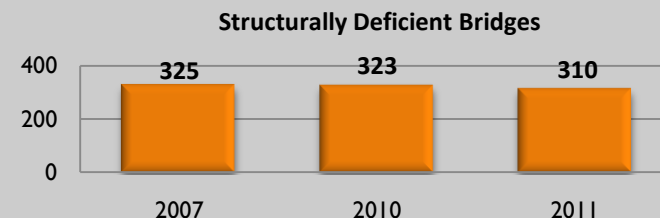
## Pavement

- ✓ Percentage of pavement in Acceptable Condition has increased between 2007 and 2011.
- ✓ Percentage of annual pavement crack sealing inventory completed has increased from 43 percent to 69 percent.



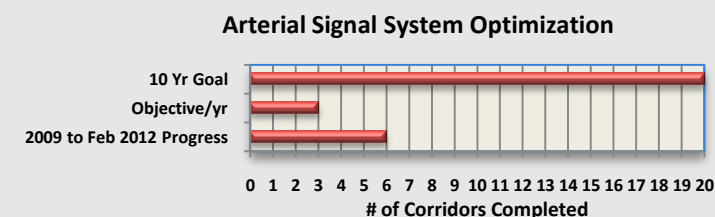
## Bridges

- ✓ State Bridges in Deficient Condition dropped from 323 in 2010 to 310 in 2011. Current investments for bridge assets is expected to at least “maintain” an acceptability rate of 86 percent (non-deficient) in 10 years for structurally deficient bridges and reduce the growth rate.



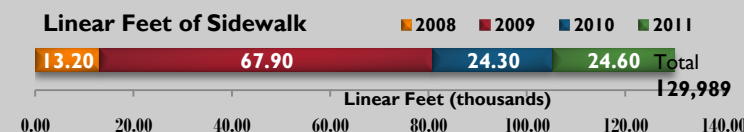
## Congestion

- ✓ Avg. incident duration has dropped from 1 hour to 53 mins. (2007-2010)
- ✓ Traffic signals have been optimized on 3 out of 20 state highway corridors over the last year. Mainline flow is expected to be substantially improved and intersection delay reduced by 10%-20%. The goal is to optimize 2 corridors per year.
- ✓ Average travel times on I-287 and I-78 have dropped.



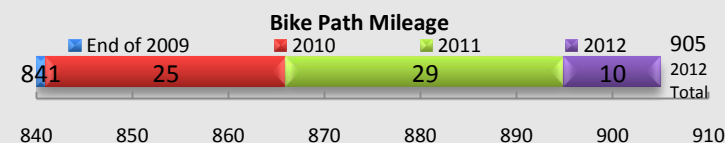
## Pedestrians

- ✓ The linear feet of sidewalk has increased from 16,000 feet in 2008 to 97,000 feet in 2010, an increase of 81,000 lineal feet



## Bicyclists

- ✓ Bike path mileage has increased from 841 miles in 2009 to 895 in 2010. Mileage is anticipated to increase to 905 miles (7.6% increase) in 2012.





## V. RESOURCE ALLOCATION

### STATEWIDE GOALS

The SCIS is the mechanism designed to ensure that plans (State Long-Range Transportation Plan) drive capital programs. The New Jersey Long-range Transportation Plan 2030 (LRP) establishes a vision and policy framework, sets forth strategies, provides a structure for guiding investment and identifies the financial resources to sustain the plan's vision. The goals and objectives identified in the LRP address critical statewide transportation needs: bridge, roadway and mass transit preservation, transportation and land use planning, highway, pedestrian and passenger safety and security, congestion relief, environmental and intermodal improvements.

The SCIS functions as an instrument that links the LRP to the 10 year capital plan by connecting broad goals to specific investment choices. Based on the LRP goals, the SCIS guides the development of long-term capital programs to shrink the backlog of deficiencies and to identify and implement state-of-the-art engineering techniques and

#### NJ LRP Goals

- 1 **Maintain and Renew the Transportation Infrastructure Policies**
  - Fix It First
  - Fix It Efficiently
  - Back To Basics
- 2 **Integrate Transportation and Land Use Planning Policies**
  - Champion Smart Growth
  - Create Better "Tools"
- 3 **Increase Safety and Security Policies**
  - Make Travel Safer
  - Reduce Risk
- 4 **Improve Mobility, Accessibility, Reliability Policies**
  - Counter Congestion with Multimodal Solutions
  - Improve Connections
- 5 **Operate Efficiently Policies**
  - Reduce Delay
  - Give Customers Choices
- 6 **Respect the Environment Policies**
  - Promote Environmental Stewardship
  - Enhance Quality of Life
- 7 **Optimize Freight Movement Policies**
  - Increase Freight System Capacity and Efficiency
  - Integrate Freight into Transportation and Land Use Planning
  - Target Investments in Key Freight Hubs and Corridors
- 8 **Continue To Improve Agency Effectiveness Policies**
  - Increase Freight System Capacity and Efficiency
  - Integrate Freight into Transportation and Land Use Planning
  - Target Investments in Key Freight Hubs and Corridors

asset management practices to accomplish the best possible performance with respect to funding constraints.

Refer to the following for a detailed list of the LRP goals, policies and strategies: <http://www.state.nj.us/transportation/works/njchoices/pdf/2030plan.pdf>

As a mechanism to achieve the LRP, the SCIS addresses the following statutory goals set out in the Congestion Relief and Transportation Trust Fund Renewal Act of 2000, but are not limited to:

reduction of vehicular and pedestrian accidents, reduction in the backlog of projects, including one-half of the structurally deficient bridge repair projects and pavement deficiencies an increase in lane miles of bicycle paths, with a goal of constructing an additional 1,000 lane miles of bicycle paths in five years to reduce traffic congestion and for recreational uses. keeping the public transportation system in a state of good repair a strategy and a preliminary timetable for the replacement of the current diesel bus fleet with a fleet of buses that have reduced emission of air pollutants.

Goals and objectives relating to state highways and transit assets have been developed that are aligned with the statutory goals. Specifically these include bridge, road and transit infrastructure assets as well as safety, congestion and multimodal support. The toll road authorities have also identified several goals and objectives that deal with maintaining a state-of-good repair for infrastructure, improving safety and providing congestion relief.

The SCIS evaluates the budget required to bring the state's transportation infrastructure to a state of good repair and keep it there.

This asset management approach uses program level performance analyses. It identifies how well current and proposed capital plan allocations perform over time subject to alternative investment scenarios in an effort to achieve our transportation goals and objectives.



## REVENUE ASSUMPTIONS

An annual revenue estimate of approximately \$3.3 Billion was developed for this analysis. This includes average annual levels of Federal and State funding for NJDOT and NJ Transit, and Authority toll revenues for NJTA and SJTA.

NJDOT and NJ Transit's revenue estimate is based on the following:

- Federal: FY 2012 thru FY 2021 figures (based on Federal FY 2011 apportionments) will remain flat through the 10 year period.
- State: FY 2012 thru FY 2021 figures (based on State FY 2011 appropriations) will remain flat through the 10 year period.
- The State figure will be comprised of:
  - General funds, PANY+NJ, NJTPK and Transportation Trust Fund funds

NJDOT's revenue estimate does not consider Federal earmarks, Federal set asides and Demonstration funding, as well as capital program delivery and support costs. The NJTA and SJTA revenue estimates include anticipated toll revenues.



The investment targets identified in Figure 1 are:

**Recommended Constrained Investment Targets:** These targets represent annual investment levels that are subject to funding constraints based on projected average annual revenue limitations over the next ten years. Federal earmarks, set-asides and demonstration funding are not included within these totals.

Based on a \$3.3 billion total revenue investment level, Figure 2 illustrates the proposed annual constrained investment target allocation percentages displayed by asset category. A description of each asset category is provided in the next section.

## INVESTMENT CATEGORIES

### PHYSICAL AND NON-PHYSICAL ASSETS

The SCIS classifies assets into physical and non-physical categories as presented in Figure 9.

#### Bridge Assets

This classification includes work, which is designed to keep the existing bridges functioning, and in a state of good repair, including work which rehabilitates or replaces existing bridges to current design standards. Examples of work included within this classification are:

- Bridge rehab and replacement
- Bridge deck rehab and replacement
- Bridge capital maintenance
- Bridge management
- Dams

#### Road Assets

This classification includes work that is designed to keep the existing highway system functioning and in a state of good repair, including work which upgrades segments of

Figure 9

## Statewide Capital Investment Strategy (SCIS) An Asset Management Decision-making Process

### Physical Assets

Bridge Assets

Road Assets:

- Pavement
- Drainage
- Guiderail
- Signs

Transportation  
Support  
Facilities  
Assets

Airport Assets

Mass Transit  
Assets



### Non-Physical Assets

Safety  
Management

Congestion  
Relief

Multimodal  
Support

Local System  
Support



the system to current design standards (e.g. safety treatments that are part of a general roadway project such as signs, guiderail, barrier curb, or traffic signals as opposed to individual line-item programs that exclusively include signs or traffic signals only). Examples of work included in this classification are:

- Resurfacing
- Highway Rehabilitation and Reconstruction
- Pavement Management System
- Drainage Management
- Landscape
- Environmental Remediation

### **Mass Transit Assets**

This classification includes light rail, rail and bus physical assets required to bring the transit system to a state-of-good-repair. Categories within this classification include:

- Track
- Structures
- Electric Traction
- Signaling
- Rolling Stock, rail cars and buses
- Rail Stations, bus terminals, shelters

### **Airport Assets**

Administration of NJ Aviation System: Public Use Airports that consists of a complex system of facilities operated by State, County, Municipal and private entities. This classification includes work that is anticipated to preserve, maintain and improve NJ Aviation facilities for the development of an efficient air transportation system that responds to the needs of its users and the public. The physical assets included in the category are:

- Atlantic City International - SJTA, Egg Harbor Township, NJ
- Aeroflex-Andover - NJDEP, Andover, NJ
- South Jersey Regional – NJDOT, Lumberton, NJ
- Greenwood Lake – NJDOT , West Milford, NJ
- NJ Aviation System: Public Use Airports - NJDOT, through its Bureau of Aeronautics, administers the NJ Aviation System and has general oversight of 44 public-use airports, and over 400 restricted-use aeronautical facilities, including airstrips, heliports and balloon ports.

### **Transportation Support Facilities Assets**

This classification includes work that is anticipated to preserve, maintain and improve physical plant infrastructure including office buildings, rest areas, maintenance facilities, toll plazas, and existing park and ride locations (system preservation).

Note: Bus stops and train stations are included under Mass Transit Assets.

### **Safety Management**

“Safety First” is further reflected in several other NJDOT supported projects that utilize the 4E’s (Engineering, Education, Enforcement, and Emergency Medical Services (quicker response and care) and other measures to enhance safety and reduce crashes. Safety programs aimed at reducing the frequency and severity of crashes and promoting the all-round engineering, education, and enforcement approach of Safety First. Examples of safety management programs are:

- Intersection Improvement Program
- Safe Corridors
- Accident Reduction
- Cross Median Crash Prevention
-

- Rail Highway Grade Crossing, Cape May
- Rail Highway Grade Crossing, State
- Rail Highway Grade Crossing, Federal
- Train Preemption for Traffic Signals North
- Safety Projects
- Safety Capital Maintenance
- Betterments, Safety
- Restriping Program
- Traffic Signal Replacement
- Safety Management System
- Motor Vehicle Crash Records
- Rockfall Mitigation

### Congestion Relief



This classification encompasses work that improves the flow of people and goods along transportation corridors. Specific programs

under this heading, include highway operational improvements, bottleneck widening, missing links, major widening, intelligent transportation systems and travel demand management.

### Multimodal



This classification includes work that addresses improvements/provisions for alternative modes of transportation. Program categories within this classification include goods movement, bicycle/pedestrian, ferries, paratransit, intermodal connections, rail, maritime and other modes.

### Local Support Systems



This classification provides for development and implementation of transportation improvements on the local roadway network. Examples of program categories within this classification are local aid to counties and local aid to municipalities, bicycle/pedestrian, regional planning and project development.

A strategic resource allocation process was conducted that applies performance measures to guide the determination of program category investment targets required to achieve agency goals and objectives over the next ten years. It involves classifying all of the capital work done by each transportation agency into the investment categories listed above and establishing goals, objectives and performance measures for each category when possible. A discussion of the trade-off analysis is provided in the next section.

## VI. STRATEGIC DIRECTION

### PERFORMANCE-BASED DECISION-MAKING

#### TRADE-OFF ANALYSIS

The goal of the SCIS is to apply effective asset management performance measures and targets to policy objectives with results based on the most technically sound data available.

The process to select the Recommended Constrained Investment Targets made every effort to optimize the overall performance of the budget. During the trade-off process, this approach tried to make certain that scarce financial resources are used as economically as possible to address our most important needs. "Performance analyses" are developed to evaluate how well present and proposed capital programs cost effectively achieve the policy objectives.

The resource allocation process followed to set investment targets and enable tradeoff analysis is guided by objective, asset management decision support guidelines

Figure 10		
Scenario A	Continued Funding Level	At a continued (current) funding level, what outcome (condition level, e.g., % deficient) is expected? Deficient deck area for bridges, % roughness for pavements, # of safety locations improved, # of airports preserved.
Scenario B	25% Decrease in Funding level	At a 25% decreased funding level, what outcome (condition level) is expected?
Scenario C	25% Increase in Funding Level	At a 25% increased funding level, what outcome (condition level) is expected?
Scenario D	Maintain Condition Level	Maintain a status quo overall condition level at the end of 10 yrs.
Scenario E	50% Backlog Reduction	Reduce the backlog by 50% - of deficient bridge deck area (%), deficient pavement (%), # of safety projects improved or reducing injury severity rate, # of airports protected over 10 years, # of master plans completed, annual passenger increase, # of facilities improved; # of bike path lane miles built over 10 yrs etc.
Scenario F	100% Backlog Reduction (Total Need)	Reduce the backlog by 100% - of deficient bridge deck area (%), deficient pavement (%), # of safety projects improved or reducing injury severity rate, # of airports protected over 10 years, # of master plans completed, annual passenger increase, # of facilities improved; # of bike path lane miles built over 10 yrs etc.

available for bridge and roadway assets. These are state-of-the-art quantitative life-cycle cost models. They are used to predict system performance outcomes over time

subject to the alternative budget scenarios shown in Figure 10. Quantitative performance analyses were conducted for bridge and roadway infrastructure assets to



determine the annual level of investment required to achieve a state of good repair. The investment target options were designed to achieve various performance levels for each asset category. The alternative investment scenarios included outcomes (in terms of system condition) and outputs (in terms of prospective project lists) for high, medium, and low investment levels.

With the use of asset management life-cycle cost analysis, the SCIS applies specific performance measures to calculate capital program achievement against annual target allocations for each alternative investment objective. Performance measurement and management system data (for bridges, pavement, safety and congestion) are used to link the selection of projects for capital funding with broad program objectives. NJDOT conducts a performance analysis that predicts bridge condition levels for replacement and rehabilitation needs over the next ten years.

This analysis accounts for the existing and accruing bridge deterioration eliminated by implementing current and anticipated bridge improvement projects given specified funding scenarios. As a result, bridge projects are selected for funding based on their contribution to the current objectives that focus on reducing or eliminating 50% of the backlog of prioritized structurally deficient



bridges on the state highway system over the next 10 years.

In addition, a similar performance-based analysis is also used to predict the status of pavement conditions of the state highway network expressed in terms of “percent deficient” translated to “percent acceptable” for roughness and surface distress. The analysis demonstrates to what extent the Capital Plan maintains a status quo pavement quality condition level or reduces deficiency and slows down future accruing deterioration. This evaluation, in turn, can be compared to a “total need” scenario that eliminates the backlog.

Performance data was also applied from the congestion and safety management systems to conduct prioritization evaluations for alternative budget scenario analyses as well. For mass transit assets, the expected service life of the component or facility was used to guide investments directed at reaching or

maintaining a state of good repair.

With regard to other categories such as, safety management, congestion relief, and multimodal programs, output-based and qualitative performance analyses were conducted. Qualitative performance analyses were used when sound data was not available or could not be technically applied to gauge performance of a particular category.

Examples of goals and objectives and outcome-based performance analyses for various alternative bridge and pavement condition budget scenarios for NJDOT transportation investments are provided in Figures 11 and 12. These graphs illustrate the predicted performance trends over the next ten years for bridge rehabilitation and replacement and for the pavement resurfacing and rehabilitation backlog. These “performance curves” depict how that backlog increases or decreases with the various investment scenarios shown. Output-based performance analyses are displayed in Figures 13 and 14 for safety and congestion relief investments as well. It should be noted that the performance analyses shown are for state infrastructure only and do not include capital maintenance backlog.

Figure 11

# Bridge Investments

•FY 13-21 NJDOT CIS Target : \$605.15

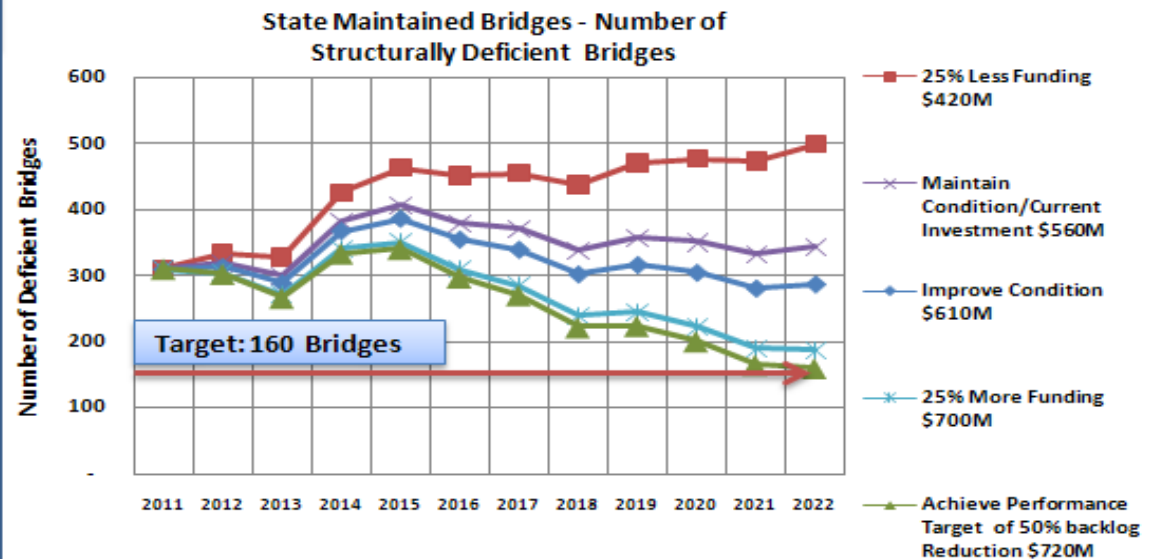
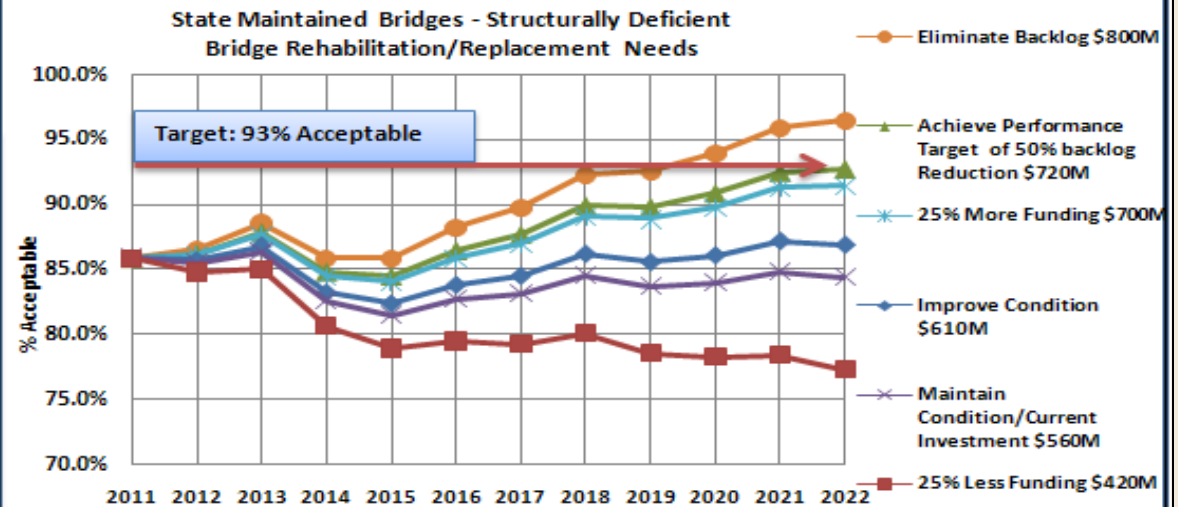
## 10 Year Measures, Targets and Objectives:

•Reduce by 50 percent the total square footage of deficient bridge decks (5 million square feet is currently rated deficient).

•Reduce by 50 percent the total number of deficient bridges on the State Highway System (316 standard bridges are currently rated deficient).

Sub- Class Str. Asset (State-owned Bridges)	Goal	Actual
Major Viaducts	89%	81%
Movable Bridges	67%	37%
Standard Bridges	93%	90%
Minor Bridges	95%	94%
Dams		
Class 1	100%	25%
Class 2	100%	71%
Class 3 N/A		
Overhead Sign Structures		
Cantilever	100%	95%
Full Span	100%	93%
High Mast Light Poles	100%	98%

## Performance Curves



\*\*\*Note: Performance curves above includes structurally deficient bridges categorized as Bridge Replacement, RR Overhead Bridges and Deck Replacements.

Figure 12

# NJDOT Road Assets-Pavement Investments

## Performance Curves

•FY 13-22 NJDOT  
CIS Constrained  
Target:

Pavement Assets  
\$240.00

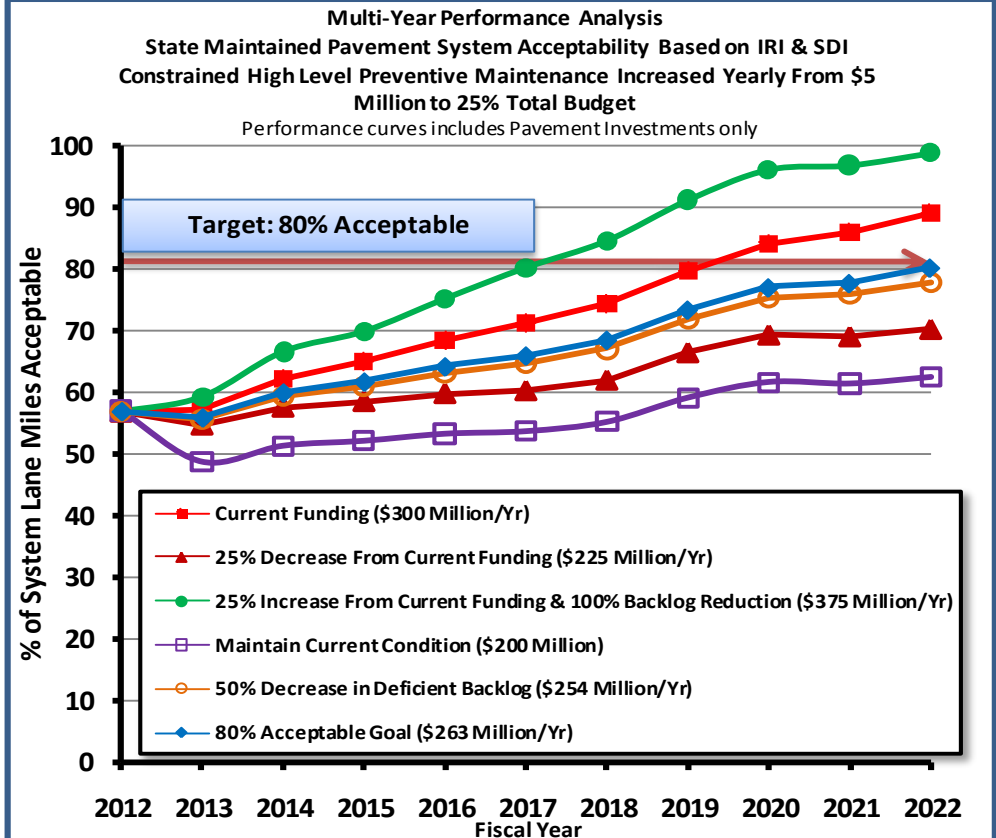
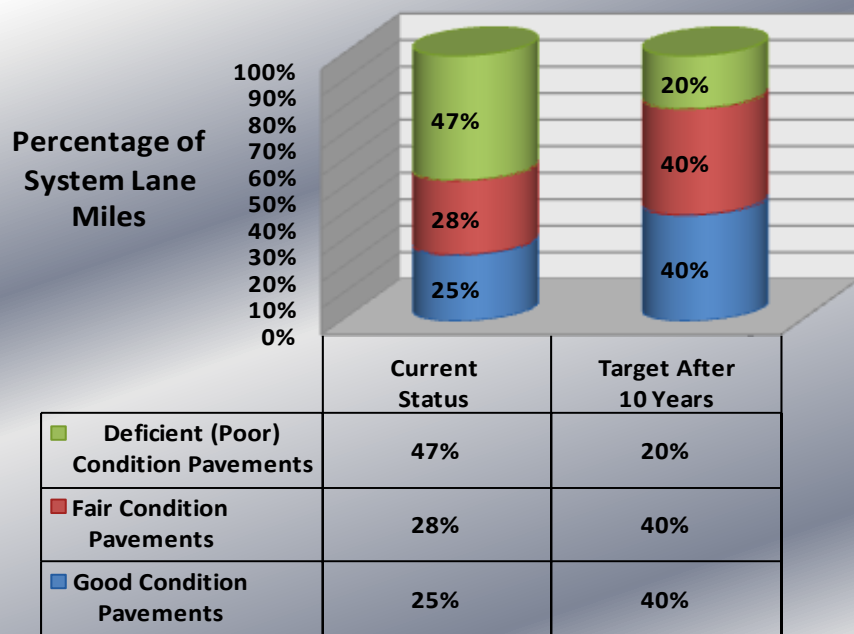
Road Assets Total  
\$257.00

### 10 Year Measures, Targets and Objectives:

Achieve 80 percent of pavement in Acceptable Condition over entire State Highway System (*System is currently rated at 53 percent Acceptable*).

#### Objectives:

- Establish an achievable and maintainable target of 80% of the state highway system in good or fair/mediocre condition (no more than 20% deficient) with respect to IRI (International Roughness Index) and SDI (Surface Distress Index).
- Balance the state highway system condition across the network to be 40% in the good and 40% in the fair category.



**Lifecycle management plan:** NJDOT has developed an innovative Pavement Preservation Plan that focuses on reducing the substantial backlog of deficient pavements while at the same time utilizing a multi-year prioritization approach containing a “mix of fixes” for pavements in various condition stages. This proactive approach utilizes sophisticated engineering and economic analyses that consider pavement performance, costs/benefits, user delay, and long-range system optimization under limited funding scenarios. It is designed to maintain acceptable pavements in acceptable condition utilizing preventive maintenance treatments that retard pavement deterioration and are completed at a fraction of the cost of rehabilitation or reconstruction activities to free up funding for deficient backlog reduction. Activities in the Plan include a “mix of fixes”: preventive maintenance (Lower Cost Repairs), resurfacing (Moderately Expensive Projects) and reconstruction/rehabilitation treatments (Expensive Projects for Serious Problems)



Figure 13

# NJDOT Safety Investments

FY 13-22 NJDOT CIS Target: \$ 97.00 M

## 10 Year Measures, Targets and Objectives:

*Note: The numbers below are baseline figures)*

Reduce by 20 percent the overall number of highway fatalities occurring on all road systems in New Jersey (594 fatalities occurred in 2008.)

Reduce by 20 percent the overall number of crashes occurring on all road systems in New Jersey. (300,000 crashes occurred in 2008.)

Reduce Lane Departure Crashes by 20 percent from a baseline of 61,000 crashes in 2008.

- Complete fixed object improvements at 140 locations to minimize and prevent • lane departure crashes.

- Complete lane departure improvements at 120 locations.

Reduce Intersection Crashes by 20 percent from a baseline of 76,000 crashes in 2008.

- Complete infrastructure improvements at 200 locations to minimize and prevent accidents from occurring at intersections.

- Complete Road Safety Audits and Improvements along 30 Safe Corridors.

Achieve a 20 percent reduction in Pedestrian Crashes from a baseline of 5,740 per year.

Achieve a 20 percent reduction in Bicycle Crashes from a baseline of 4,700 per year.

- Complete 200 miles of new bike paths statewide.

- Construct 500,000 linear feet of sidewalk on the State Highway System.

- Complete Pedestrian Road Safety Audits and Improvements on 20 corridors

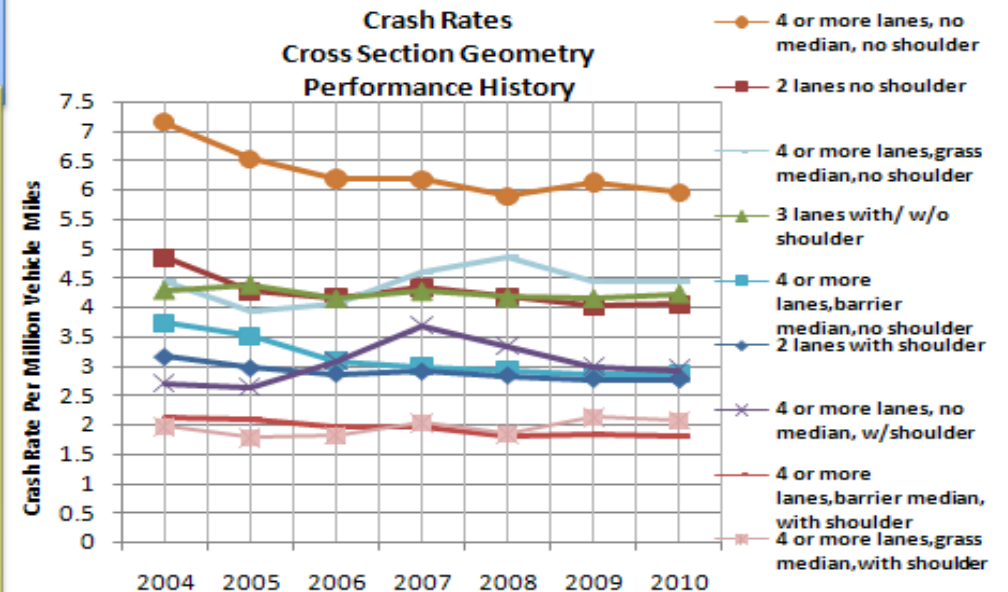
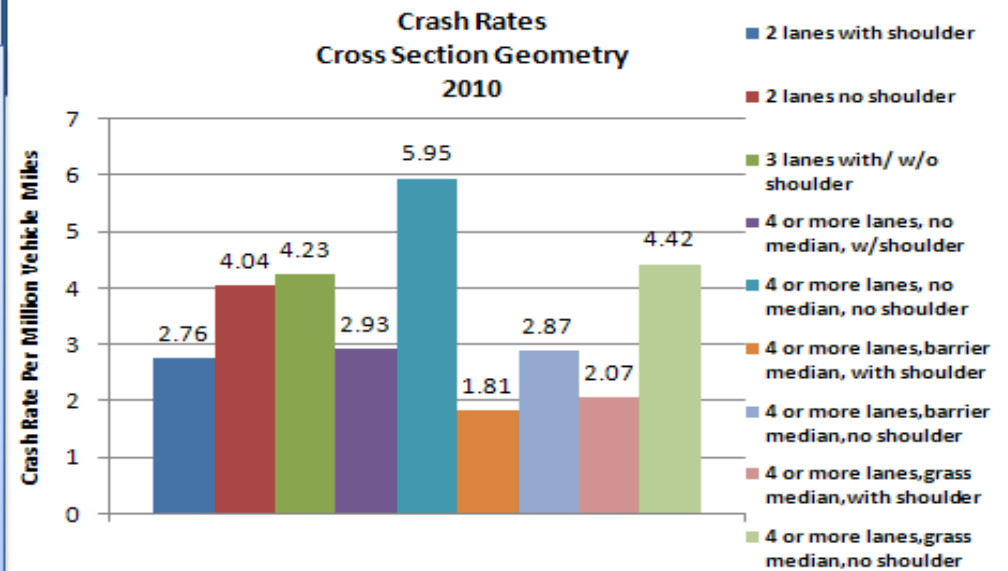
The Safety Management System is the foundation for establishing the Department's Safety Programs:

- ✓The process for establishing a safety program and updating an existing program consists of analyzing the latest three years of crash data to identify high crash locations and patterns of crashes.

- ✓A methodology for developing a priority listing of those locations has been established for the following programs:

- ☐ Intersection Improvement Program (IIP)
- ☐ Safe Corridor Program
- ☐ Right Angle Program
- ☐ Left Turn Program
- ☐ Pedestrian Program
- ☐ Run Off Road/Fixed Object Program
- ☐ Median Cross-over Crash Reduction Program
- ☐ Wet Weather Crash/Skid Reduction Program
- ☐ Right Angle Program
- ☐ Left Turn Program

## Performance Indicators



# NJDOT Safety Investments

FY 13-22 NJDOT CIS Target: \$ 97.00 M (con't)

## Safe Corridor and Intersection Improvements:

### 10 Year Targets:

Reduce Intersection Crashes by 20 percent from a baseline of 76,000 crashes in 2008.

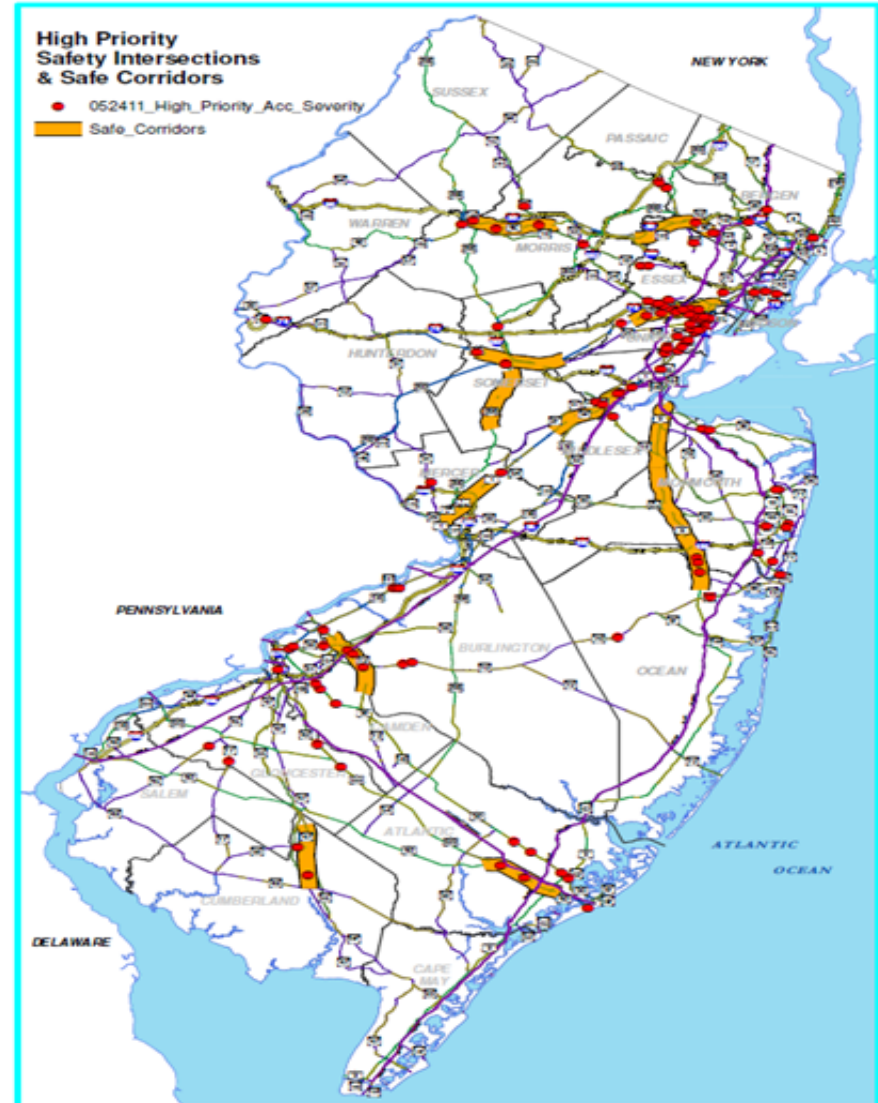
- Complete infrastructure improvements at 200 locations to minimize and prevent accidents from occurring at intersections.
- Complete Road Safety Audits and Improvements along 30 Safe Corridors.

### Safe Corridors Program:

As part of the Safety Management System (SMS) the safe corridor program was developed to significantly reduce the frequency and severity of overall crashes and specific crash types on these highways. Fines for certain traffic violations are doubled within the designated corridors and NJDOT has developed a methodology to reduce the number and severity of crashes through a variety of engineering, educational, and enforcement practices. Special "safety impact teams" analyze crash data and problem areas and make recommendations for safety countermeasures using a variety of programs. Safe corridor locations are identified and ranked according to an analysis of various factors, including total crashes, crash rates, fatalities, injury crashes, and property damage. The final list of 13 locations designated under the act met a minimum of 1,000 crashes over 3 years and a crash rate 50 percent higher than the statewide average. These locations total 129.4 miles along Routes 1, 9, 22, 40, 46, 47, 73, and 206.

**Intersection Improvement Program:** A program designed for the implementation of safety and operational improvements at intersections as identified by the Safety Management System as having above average number of crashes and significant safety problems. 150 – 200 Locations have been identified.

## Performance Indicators



# NJDOT Congestion Investments

**FY 13-22 NJDOT Constrained Target: \$ 200.00 M**

## Management Plan to Achieve Target Service Levels

### Roadway Infrastructure Assets

- Complete 5 mainline bottleneck projects (identified in Congested Places)
- Complete 4 major widening projects (Congested Commuter/Recreational Roadways)
- Complete 4 missing link projects (identified in Liberty Corridor & other work)
- Complete 10 interchange projects (identified in Congested Places )
- Complete 40 signalized intersection projects (identified in Congested Places)
- Address 50 “quick fix” locations (identified in Congested Places or “Quick Fix” Survey)

### ITS Assets

- Continue to reschedule assignments, and schedule effectively within constraints to maintain operational coverage for maintenance of the ITS inventory
- Update the ITS Investment Strategy Plan, including prioritizing ITS deployment on critical corridors
- Coordinate ITS deployment within other infrastructure projects, in addition to stand alone ITS projects, to more effectively provide for optimal coverage
- Implement a statewide traffic management control software program for more effective managing traffic between the various centers, DOT & Non-DOT
- Continue to provide accessibility of travel time data through indirect sources such as GPS and/or Cell phone based vendors
- Start adding adaptive (smart) control to optimized corridors (this necessitates an additional \$1.2M/year in the Traffic Signal Timing & Optimization line item.

### TDM/TMA Assets

- Work closely with MPOs and the Transportation Management Associations (TMAs) to encourage a greater emphasis of statewide TDM work. Seek their partnership in delivering new and enhanced strategies from the 2011 TDM Strategic Plan. New strategies include: increased opportunities for transit, employer based measures, and new technology applications
- Assist the MPOs and the TMAs in implementing initiatives developed for the Energy Master Plan and outlined in the Governor's draft Global Warming Response Act Recommendation Report (i.e. expand use of commuter incentives, TDM marketing efforts and development of shuttles to transit stations). Specific objectives include:
  - 10 new shuttles operational by 2019
  - A new statewide TDM marketing campaign estimated at \$5 million per year
  - A carpool incentive and retention program estimated at \$2 million per year
- Increase park and ride parking capacity from new projects and lease agreement opportunities



## CONSTRAINING THE SCIS INVESTMENT TARGETS TO EMPHASIZE

### STATE OF GOOD-REPAIR

The estimated investment levels (totaling \$3.3 billion annually) for the Recommended Constrained Investment Targets by transportation agencies are presented in Figure 15.

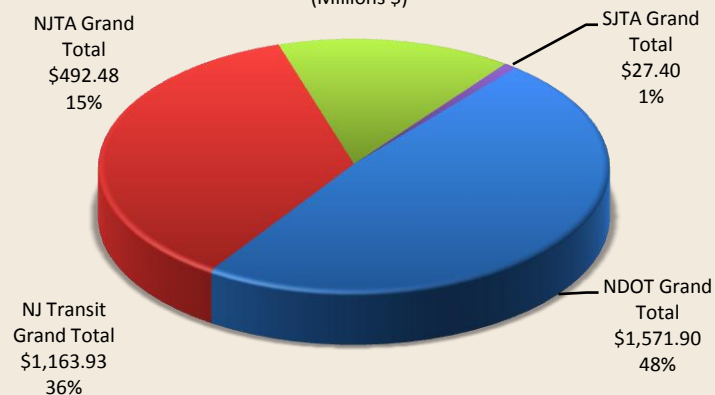
The SCIS annual target investment levels for most of the asset categories were maintained, except for a reduction to Congestion Relief due to the termination of the Access to the Region's Core (ARC) Tunnel project.

As a guide, the SCIS presents an overall policy direction that concentrates on safety, preservation and maintenance of the existing transportation network as the highest transportation priorities. For example, 68 percent of the constrained annual investments over the next ten years, as shown in Figure 16, are allocated to emphasize the implementation of needed safety improvements and a state of good-repair for bridge, road and mass transit infrastructure. These annual investment levels are proportionally allocated to reflect the achievement of performance objectives within expected fiscal constraints over the next ten years.

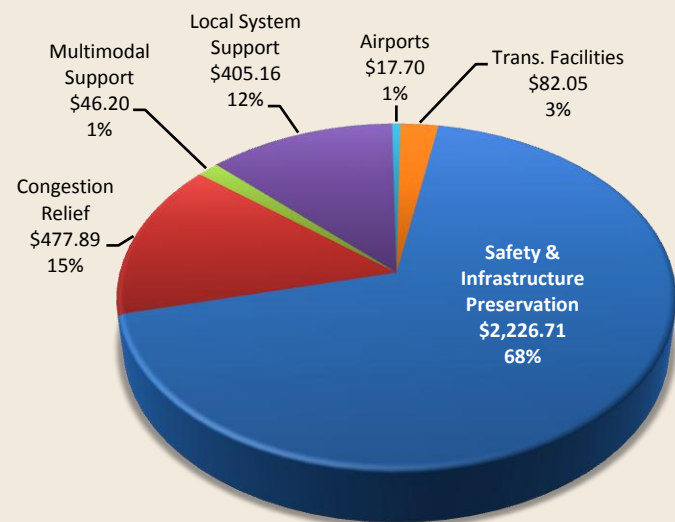
New Jersey has an immense investment in its highway, bridge, rail, port, and aviation infrastructure. While some capacity increases will be strategically targeted based on benefit-cost analysis, it is the existing infrastructure, developed over many generations, which will have to carry the bulk of passenger and freight traffic. Deterioration, safety and other inadequacies in this infrastructure will be felt by frustrated travelers, shippers, and ultimately by the economy.

The SCIS calls for a commitment to restoring New Jersey's infrastructure to a state of good repair. The overall objective is to allocate investments primary to key elements that are anticipated to bring deficient infrastructure to a state of good repair in ten years. An enhanced maintenance program is recommended to ensure that these hard won gains are protected for future generations.

**Figure 15**  
**Statewide Constrained**  
**Annual Investment Targets**  
**\$3.3 Billion Total**  
(Millions \$)



**Figure 16**  
**The SCIS Emphasizes Safety Management**  
**& Infrastructure Preservation**  
(Million \$)



Safety & Infrastructure Preservation includes Safety Mgmt (\$127.2M) 4%; Bridge (\$771.09M) 24%; Road (\$261.5M) 8%; Mass Transit (\$1066.9M) 32%

## VII. PROJECTED PERFORMANCE OF THE INVESTMENT TARGETS

### EXAMPLE: STATE HIGHWAY SYSTEM (NJDOT)

NJDOT's CIS is used to develop the Capital Program. The CIS recommends Constrained Investment Targets designed to emphasize safety management and infrastructure preservation. Achieving standards for bridge and road assets, in addition to safety and congestion management through the development of the 10-Year Capital Plan is discussed in section of this report.

As illustrated in Figure 17, 61 percent of NJDOT's planned investments are targeted towards safety and infrastructure preservation. The selected resource allocations were determined based on a "Fix It First" policy. This refers to achieving system performance levels needed to maintain or enhance New Jersey's transportation infrastructure to a state of good repair and keep it there. This asset management approach uses program level performance analyses to evaluate system condition needs and identify comprises.

Every capital program involves making choices and tradeoffs. As the CIS and the Proposed Capital Program both demonstrate, NJDOT is committed to continued higher priority funding levels for physical infrastructure asset needs such as preserving bridges and roadways and safety improvements. As a result, congestion relief, multimodal support, airports and transportation support facilities have been allocated smaller percentages than may be considered desirable.

However, NJDOT has taken a new approach to fighting congestion and improving mobility and accessibility. In this current climate of fiscal constraint, NJDOT has

necessarily shifted its strategic focus for congestion relief away from major capacity increases and new alignments, and instead is aggressively targeting system inefficiency and demands through bottleneck mitigation, improved system operations, and transportation demand management. These more sustainable solutions, when combined with smart land use decisions, more robust public transportation, multi-modal options and advanced technology will allow the Department to continue its congestion-fighting efforts in spite of these fiscally challenging times.

